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In these statements I consider the Snow-line as that average level where the surface of snow is equal to the surface denuded by melting (and not merely by precipitous formation of the mountains). The estimates themselves (made from heights determined by the boiling thermometer) are attended with some uncertainty—to the amount perhaps of 500 feet; for though the hypsometric data on which they rest are probably correct within one or two hundred feet, the process of judging by the eye, whether the snow upon one's path, and still more upon the contiguous mountain sides above one's actual station, begins to exceed the bare spaces, or *vice versâ*, is neither easy nor susceptible of much exactness.

II.—*A Sketch of the Geography of Borneo.* By JOHN CRAUFURD, Esq., F.R.S., &c.

Read May 10, 1852.

THE natives of Borneo, of whatever description, have no name, or, at least, no popular and well-known name, for it. This is, indeed, the case with all the natives of the Archipelago to which it belongs, in so far as concerns all the greater islands, with, perhaps, the single exception of Java. What they call “an island” (*pulo*), is no more than an islet, an object, of which the insularity is palpable, almost to the eyesight. This is quite consistent with their narrow knowledge and their limited powers of comprehension and generalization. They may be said to view the great islands as so many continents, and, generally, call the different portions of them by the names of the natives which inhabit them. Borneo has, however, by a few Malayan scholars, been sometimes called *Pulo Kalamantan*, or the *Island of Kalamantan*, but it is a name which occurs only in romance; and although it has the form of an abstract noun, I have not been able to assign any meaning to it, or to trace its origin. The European name is obviously enough taken from that of the town and state of Borneo Proper, which is variously written and pronounced by various Malay tribes as *Brunai*, *Brune*, *Burnai*, and *Burne*. Pigafetta, and the companions of Magellan, visited it in 1521, and were the first Europeans that did so. He at once applies the name, which he writes “*Burne*,” not only to the town and country, but to the whole island; and informs us that it is so large, that it takes “three months to sail round it.” One only wonders, by whom Pigafetta was informed of its insularity. To him, however, must be inscribed the name which the island has ever since borne.

The equator bisects Borneo, leaving something like one-half of

its surface within the northern, and one-half within the southern hemisphere; about 4° of it in its broadest part being in the latter, and 7° in its narrowest in the former. The most western portion of it is about 110° east of London, and the most easterly about 120° . Its shape is that of a shoulder of mutton, the broadest part to the west, and the narrowest to the east. The area of Borneo has been variously computed at from 286,000 to 360,000 square miles, and probably it is equal to about eight times the size of Java—a single province of which is more valuable. It may be about thrice the size of the two British Islands, of which some single counties far exceed it in population.

Borneo has a coast line of some 2000 miles, which is about the breadth of the Atlantic between Ireland and the nearest point of the continent of America. That line has few bays, and no deep inlets of the sea, which would throw the several portions of the island into communication. On the contrary, it is a great unbroken dense mass of land, much like a huge piece cut out of tropical Africa. Portions of the interior must lie at least 300 miles from the sea, for the greatest length of the island is 850, and its greatest breadth 680 miles.

Of the mountains of Borneo we know very little. The ordinary height of the highest one on the eastern side seems to be from 1000 to 1200 feet above the level of the sea; but Kinibalu, towards the northern part of the island, has been estimated at from 13,000 to 14,000 feet (13,698). It does not appear, however, that, with this exception, there are any others of the great elevation of those of the volcanic islands of Sumatra, Java, Bali, or Lombok, that is, rising to the height of from 10,000 to 15,000 feet. There are, probably, many considerable lakes in a country of such vast extent, and two of them have been ascertained and named. The lake of Kinibalu, which, however, no European has visited, and of which even the very existence is not certain, is said to lie to the northern portion of the island, at the foot of the mountain of the same name, and is reputed to be 100 miles long. The second lake, called Danau Malayu, or the "Malay Lake," was first visited by Europeans in 1823, and found to be 8 leagues in length by 4 in breadth, with a depth of 18 feet in some parts. It is situated in $1^{\circ} 5' N.$ lat., and $114^{\circ} 20' E.$ long., and is 45 leagues from the western coast. The rivers are of considerable length, but every one obstructed by a bar at its entrance. On the western side of the island, the principal ones are those of Sambas, Pontianak, Matan, Sukadana, and Mampawa. These have bars, on which, at high water and spring-tides, there are from 6 feet at the lowest, to 15 feet at the highest, so that they are all navigable only to small vessels, and to these with inconvenience. On crossing the bars there is abundant depth up to certain falls, said to be 30

feet in height. On the southern side of the island the principal rivers are those of Banjarmasin, Pasir, and Kuti; the last may be taken as a sample. The traveller Dalton states, that he ascended it for 600 miles, reckoning by its winding, and found it with a good depth of water, and a breadth ranging from 400 yards to a mile. The principal rivers of the north-western coast are the Sarawak, the Sarebas, the Rejang, the Kayan, the Bintulu, and the Brune, or Borneo. The last is the largest and most important of these; but even this is of intricate navigation, and not practicable for vessels drawing above 15 feet of water for more than 20 miles up.

As to climate, it is evident enough what that of Borneo must be when the equator bisects it—when it is surrounded by the sea—when it is remote from any continent—and when all the monsoons which blow in the Indian Ocean pass over it. That portion of the island which lies N. of the equator, is subject to the monsoons of the northern Indian Ocean, or the S.W. and N.E.; and that which lies S. of the line, to the monsoons of the Java Sea, or the N.W. and S.E. The climate is damp and sultry, the thermometer at the level of the sea seldom falling below 80° , or rising above 90° . The whole island is one huge primeval forest, from the water's edge to as far in the interior as it has been penetrated by Europeans; and the cleared land would seem to consist of mere spots, few and far between. Mr. Dalton, already quoted, gives a very graphic account of this state of things when he is describing a village or town on the banks of the river of Kuti: "The country behind," says he, "is a complete jungle down to the water's edge (here and there are to be seen rice and sugar fields); it would be totally impossible for five men to move abreast of each other only for a few yards, so close and impenetrable is the jungle. The inhabitants never think of cutting or clearing away the trees or long grass around their houses, so that within 10 yards of the best habitations the wild wood is as thick as in the most unfrequented parts." With all this, I have never heard that any portion of the island has been charged with peculiar insalubrity, although to the European constitution it must be both uncomfortable and debilitating.

The coast of Borneo would be a dangerous one to navigation, from the absence of the shelter of harbours, of which it can hardly be said to have any, if it did not lie in the latitudes exempt from the storms and typhoons which prevail in the northern part of the China Sea, and which, although they extend to the Philippine group, never reach it. Heavy squalls are experienced at the changes of the monsoons, but this is all.

The geological formation of so vast a country as Borneo must of course present great variety. As yet, primary and secondary

formations only have been found ; and of the volcanic formation, so prevalent from Sumatra to the Moluccas, no trace has been discovered. Certainly no volcano in a state either of activity or quiescence has been seen ; and, indeed, the island lies out of the course of the well-known volcanic zone of the Archipelago. The mineral wealth of Borneo, however, is remarkable, and in this respect, probably, no country of the East is equal to it. The following are the minerals which have been ascertained to exist in abundance, and to be worth working, viz., coal, iron, antimony, gold, and diamonds : indications of tin and copper have been reported.

The coal was discovered about ten years ago, within the territory of Borneo Proper, and close to the sea, the fields appearing to extend about 20 miles along the river of Brune, and cropping out again in the British island of Labuan. In this last place about 10,000 tons have been already raised and used for steam navigation, for which its quality has been found superior to that of any Indian coal. An English company with British capital and skilled labour is engaged in the mining. On the southern coast the Dutch have found coal, which they are at present engaged in mining.

Iron ore abounds in many parts of Borneo ; and to judge by the excellence of the raw iron, tools, and weapons made of it, even by the rude industry of the wild natives, it must be of very superior quality. Everywhere these people are acquainted with the art of making good malleable iron, which is held in such estimation, that it forms an article of exportation. For the market it is made up into little faggots of ten pieces, each 9 inches long, $1\frac{1}{2}$ broad, and $\frac{1}{4}$ inch thick. "It is of superior quality," says a writer in Moore's '*Indian Archipelago*,' "as tools made of it are not steeled; and is in great demand among the natives." He adds that, it is sold by retail at the enormous price of 55*l.* a ton. Mr. Dalton's testimony, given from another part of the island, the southern coast, is to the same effect. "The iron," says he, "found all along the coast of Borneo, is of very superior quality. They (the Dyaks) have a method of working it which precludes the necessity of purchasing European steel, except for cock's spurs, which they prefer when made of a razor. I have counted 49 forges at work merely in the *kampung* (village) of Marpow. Instruments made of it will cut through over-wrought iron and common steel with ease. I have had several penknives cut with them by way of experiment ; and one day having bet a wager of a few rupees with Selgie (the Dyak chief with whom he was living) that he would not cut through an old musket barrel, he, without hesitation, put the end of it on a block of wood and chopped it to pieces, without in the least turning the edge of his *mandaw* (cutlass)."

I venture to conjecture, that much of the fine quality of wrought iron depends more on the superiority of the ore from which it is made, than on the skill of the wild manufacturers. If this be so, and the ore, as alleged, abundant and accessible, it might, I imagine, be advantageously exported to this country, as dead weight, as the ore of antimony of the same country now is. It is said to abound at Bintulu, near the locality of abundant sulphuret of antimony; and as this, with a navigable river, is within 100 miles of the British settlement of Labuan, it might be conveyed thither by the native craft of the country, and stored to ballast European shipping.

On the western side of Borneo diamond mines have been long worked, and the formation in which diamonds are found extends over a very wide space. The principal workings, however, are in the district of Landak, in about 2° north of the equator. The deepest boring, which is made in order to reach the stratum which contains the diamonds, is from 50 to 60 feet, and, when such is the case, the different strata passed through are the following: black mould, 3 feet; yellow sandy clay, 17; red-coloured clay, 17; tenacious slate-coloured clay, mixed with large stones, 6 to 7 feet; a similarly-coloured clay, with small pebbles, and called by the Malays *ampir*, which is the preposition "near, or at hand," and considered a sure indication of the vicinity of diamonds, also from 6 to 7 feet; and, finally, a tenacious yellow clay, from 6 to 7 feet. After this comes the stratum containing the diamonds, a yellowish gravelly earth with an admixture of pebbles of various sizes and shapes. This matrix of the diamond, ranging from 3 to 10 feet in thickness, goes under the name of *areng*, a word the literal meaning of which I do not know, but in ordinary Malay language, it is the adjective "fetid," and if it be this, the term has probably some reference to this quality of the stratum. It often happens, however, that the stratum containing the diamonds is found at a much smaller depth than the 50 or 60 feet now mentioned.

The diamond mines are worked by the aboriginal inhabitants, by the Malays, and by the Chinese,—by the two first in the following very primitive, very tedious, expensive, and dangerous manner. They dig a pit, barely equal to the admission of the body of the workman, and not exceeding 2 feet in diameter, until they reach the *areng*, or diamond stratum, and then, pushing a lateral shaft, gather the earth, and hoist it in small baskets to the surface, when it is washed in little wooden platters at the nearest stream, until nothing remains but the pebbles, which are then carefully examined for the diamonds. In these operations many accidents occur from the neglect of the miners to prop the shafts. The Chinese proceed more artistically. They seldom open new

mines, but availing themselves of those abandoned by the Dyaks and Malays, when they are in favourable situations, direct a stream of running water on the upper strata, to carry them off, until they reach the diamond matrix, which is collected and washed in wooden troughs by a stream of water, until all the soil is washed away, when the residuum is examined for the diamonds.

The diamonds are a profitless monopoly purchased by the Dutch Government many years ago for 50,000 Spanish dollars, or about 10,000*l*. The quantity of diamonds extracted from the Borneo mines in 1824, or, rather, the quantity *bonâ fide* delivered to the Government, was 1900 carats. The quantity, however, which the mines are capable of producing seems to have no other limit, than that of the capital applied to mining for them, and the Dutch Government appears to apply very little. Private enterprise alone is suited to such undertakings. The largest diamond known to have been taken from them in recent times weighed 36 carats, but the Malay Raja, of Matan, is in possession of a rough diamond got from them weighing 367 carats. Some doubts, however, have been lately thrown on the genuineness of this gem. Supposing it, however, to be a true diamond, it would afford to lose 88 grains in cutting into a brilliant, and still equal in size the Koh-i-noor, according to Tavernier's estimate of the weight of the latter. Dr. Leyden, according to the old manner of estimation, values it at 365,378*l*., but it is certain, that he has omitted to deduct the loss of weight it would sustain in cutting.

Gold is found on the western side of Borneo in various situations over near 5° of latitude extending across the Equator, the touch, or fineness, varying at each locality from 18 to 21 carats. It is all the produce of washings, and the processes are similar to those pursued in the diamond mines, the Chinese being the principal diggers. Of the produce there are no reliable statements. Those which have been made are mere estimates. Sir Stamford Raffles about 40 years ago made it about 1,000,000*l*. a year, and even now it is probable that it does not exceed this amount.

Antimony was discovered to be an abundant product of Borneo in 1825, and then by mere accident. A person, strolling through the market of Singapore, picked up a mass of it, and found, not by his skill in mineralogy, for he had none, but by the use to which it was put, the enhancing of the brilliancy of the women's eyes by applying it as a cosmetic to the edges of the eye-lids, that it was a sulphuret of antimony. The history given by the native shop-keeper, with whom the mineral was found, was this. Small quantities used to be imported from the ports on the Persian Gulf, which served the Malays of the neighbourhood for years, and then the price used to be about 70 dollars the picul of 133 lbs. ; but a year before a native trader of Borneo had imported a quantity of it

as ballast to his prau, and the price fell at once to 9 dollars. The place, from which the ore was introduced, was ascertained to be Sarawak in Borneo. A portion of the ore was smelted in the presence of the principal Chinese merchants; an account of the discovery was published in the local newspaper—the native traders were encouraged to import it, and the European merchants to send it to England as dead weight. The trade was at once established, and now there is yearly imported into this country about 1000 tons of the antimony ore of Borneo, which forms the principal supply of the kingdom. I was myself in charge at the time alluded to of the civil administration of Singapore, and was, in fact, the person, that strolling in the market-place lighted on the mass of sulphuret of antimony, caused it to be smelted, and published an account of it. Recently antimony has been discovered at Bintulu between the 3rd and 4th degree of north latitude, as already alluded to.

The native vegetable products of Borneo, which are put to economical purposes, are, a considerable number of useful timber-trees, not however including the teak, which no country of the Eastern Islands except Java, and Mindano, one of the Philippines, produces; Malay camphor, the produce of the *Dryobalanops camphora*, and which, for its supposed tonic virtue, the Chinese purchase at more than its weight in silver; camphor oil from the same tree, a cheap and abundant product; raw sago, a large export for the manufacture of pearl and meal sago at Singapore, with ratans and canes.

The larger animals of the forest of Borneo are a species of wild ox, seemingly the same that is found in Java (*Bos sundaicus*), and the hog, or wild boar (*Sus verrucosa*), with a species of leopard, and some deer. Whether the elephant exists or not is still doubtful. If it does, it is certainly confined to the south-eastern promontory of the island called Unsang. Pigafetta and his companions in 1521 were conveyed on elephants, probably, however, of foreign importation, to the presence of the Sultan of Borneo; and if elephants, as the natives state, do exist, they may possibly be the offspring of these foreigners run wild.* I believe the rhinoceros has not been found, and the royal tiger certainly has not, which is remarkable, since it is so abundant in the Malay peninsula, Java, and Sumatra. The animal products of the land or seas of Borneo employed for economical uses are:—beeswax, esculent swallow-nests of an inferior quality, bezoar stones—called in the Malay language *goliga*, and alleged by the wild people, who collect them, to be extracted from the flesh of the porcupine—and of some species of

* Since this paper was written a native had imported into the settlement of Labuan a quantity of large elephant tusks from the peninsula of Unsang, the very spot in which the natives had described elephants as existing.

simiæ, the result of wounds inflicted by other animals, and not, as generally believed, extracted from the stomachs of ruminating animals; with tortoiseshell, and the tripang, sea-slug, or holothurion.

Borneo is inhabited by four descriptions of people—the aboriginal inhabitants, the Malays, the Chinese, and the Bugis of Celebes. The first of these are the most numerous, and from the singularity of their manners best worth a detailed account. They are well described by the traveller, Mr. Dalton, already named, as they exist on the south coast of the island, and again by Mr. Burns, a grandson, by the way, of the great poet and ploughman.* Both these gentlemen lived for some months among them, and Mr. Burns not only acquired a knowledge of the language of the most potent of the aboriginal tribes, but married the daughter of one of their chiefs.

The aborigines of Borneo have no native name by which they distinguish themselves in the aggregate, but each tribe commonly takes the name of the principal river on which lies its chief residence. The Malays call them all Dyak, a word equivalent to our own term “savage” or wild man, and apply the term equally to the wild tribes of Sumatra and Celebes, as to those of Borneo. To distinguish one tribe from another, they add to the general term the name of the tribe’s chief river, as Dyak Kayan, “the savages of the Kayan,” Dyak Sakaran, “the savages of the Sakaran,” &c. &c. The aborigines of Borneo are of the same race of men as the Malays and Javanese—are, in fact, these people rude, uncivilised, and in the infancy of society, just as the Silures of Agricola are the civilised Welsh of our times. The Dyaks of Borneo are divided into probably not fewer than a hundred different tribes or nations speaking as many different tongues. This is tropical Africa, or tropical America all over, and a sure indication of a low state of society. All the tribes, however, are by no means in an equally abject condition, for while some are mere naked hunters, without fixed habitations, and wandering through the forest in quest of a precarious subsistence, the majority have fixed abodes and have made some progress in the useful arts.

The most advanced and powerful of the Dyaks is the nation of the Kayan, whose territory extends across the island for about 3° on each side of the equator. The Kayans are not a wandering tribe, but dwell in permanent villages, and substantial well constructed houses of wood with shingled roofs. They grow rice, the batata, the sugar-cane, the banana, the pine-apple, and tobacco. They cultivate, however, no textile material, and are unacquainted

* Since murdered by robbers or pirates of the Sulu islands.

with the art of weaving, being clothed in the bark of trees, and of late in foreign fabrics, chiefly the produce of the power-looms of Manchester. Some other tribes, however, cultivate cotton, and have acquired the art of weaving.

The common fowl, the hog, and the dog, are the only animals they have domesticated, having no beast for draught or burden. Their skill in forging iron has been already mentioned. The aboriginal inhabitants of Borneo have no knowledge of letters. They never invented an alphabet, and Borneo is the only great island of the Archipelago inhabited by the Malayan race in which this feat has not been accomplished. In most respects they may be described as below the ancient Britons as depicted by Cæsar.

Some of the customs of the Dyaks are extremely barbarous, and of these the most remarkable is the hoarding of the heads of enemies or strangers, whom they waylay and murder in order to possess themselves of these much valued treasures. The practice is nearly general among all the tribes of Dyaks throughout the island, but is only less inveterately pursued by some than by others. Mr. Dalton gives the following very graphic account of the head hunting and the marriage, which is the reward of a successful *battue* :—

“ No Dyak can marry the daughter of a warrior, unless he has previously taken a head or two. Neither will one of the great chiefs allow a marriage with one of inferior celebrity. On a proposition being made to wed, it is referred to the Rajah, who calls before him the lover and the father of the girl; the former is asked what number of heads he has taken; the same question is put to the father; if the old man can produce ten heads, the young one must have five, as, according to Selgie's reasoning, by the time the lover is of the age of the girl's father he will, in all probability, be likewise in possession of ten. Should the young man not have so many, he must get them before he presumes to take another step in the affair. He then musters a few friends, takes a swift boat, and leaves that part of the country, and will not return until the number is complete (they are often absent three months). To return unsuccessful would expose him to ridicule ever after. Women's heads will not answer the purpose; they, however, generally bring back with them a few young women, and some children as an acceptable present to the Rajah and to attend the wife. They wend their way to some unprotected camp (village), taking advantage of the absence of the young men, and kill the old ones, or some poor straggling fishermen; it makes no difference whose heads they may be, so they do not belong to the Rajah's friendly campings. Having procured the desired number, they paddle quickly back and send immediate intelligence to the intended bride, who puts on all her ornaments, and with her father and friends advance to meet the heads; these are in the first instance always placed on a spot about half-way between the dwelling places of the two partners, and near the Rajah's house. On the approach of the young lady, the lover meets her with a head in each hand, holding them by the hair; these she takes from him, and he gets others if there are sufficient, if not, they have one each. They then dance round each other with most extravagant gestures amidst the applause of the Rajah and his people. After this ceremony, the Rajah, or some warrior of his family must examine the heads to see that they are fresh; for this purpose they are not allowed to be smoked or the brains taken out, which destroys the smell, but must bring them in a green state, in full proof

that old heads have not been borrowed for the occasion ; (I have frequently seen heads which have been cut off a week or more, the smell of which to me was intolerable, but to them nowise offensive). The family honour of the bride's father being now satisfied, he asks the Rajah's consent, which is always given (the young women and children taken during the expedition are at this interview presented). A feast is now prepared, at which the young couple eat together ; this being concluded, what clothes either of them may have on are taken off, and sitting on the ground naked the old women throw over them handfulls of paddy, repeating a kind of prayer that the young couple may prove as fruitful as that grain. At night the bride attends her husband to his dwelling."

Mr. Dalton describes the funeral ceremonies of the Dyaks as follows :—

"The burials of these people are not less singular than their marriages. The old men have every attention paid them whilst living, and indeed long after they die. On the death of a chief or rajah, they dress him out in his war habiliments, and carry him to the grave (after keeping him in the house a certain time according to his rank, seldom longer than ten days) on a large litter enveloped in white cloth ; they lay the body in a place prepared, without a coffin ; by his side are deposited his arms, particularly his shield, spear, and mandow ; a quantity of rice and fruit are likewise enclosed with other such articles of food as the deceased was most partial to ; the grave is then closed up ; a high mound raised, and this is encircled with strong bamboo, upon which fresh heads are placed as the most acceptable offering to the deceased. No warrior would dare to appear before the family of the chief without, at least, one head as a consolatory present ; these are thickly studded round the grave, and occasionally renewed during the first year or two, the old ones being considered the property of the succeeding chief."

With respect to religion, the Dyaks have neither priests, nor temples, nor do they pray or fast. The storing of human heads, may indeed, be considered as a kind of sacrifice, and now and then, on remarkable occasions, it seems they sacrifice a human victim, and even partake of the flesh, the party being a slave bought for the purpose.

"I cannot ascertain," says Mr. Dalton, "that the Dyaks have any religion amongst themselves, or entertain an idea of future rewards and punishments." But he adds, "It is, however, most certain, they have some idea of a future state ; this not only appears in their funerals, but on other occasions."

Although, as might well be expected, the Dyaks have no regular system of religious belief, they have many strange superstitions. Like many other nations, they draw omens from the flight or sight of birds, and consider some birds of good, and others of ill omen. Both Mr. Burns and Mr. Dalton testify to this fact. The latter tells us that of encountering a certain bird, they have the greatest dread.

"There is a certain bird of which they stand in great awe ; when they hear the note of this bird, no inducement can urge them further on the same line of road. I have frequently been out shooting when we heard it ; on such occasions they invariably would stop and tremble violently, and immediately take another road. I never could obtain a sight of this bird of ill omen, for such it is considered ; if I attempted to advance a single step nearer the sound, they took hold of me and pointing towards the sky with gestures of apprehension,

forced me a contrary way. The notes are very similar to those of our blackbird, equally sweet, but much stronger. Notwithstanding my becoming brother of the great Rajah, I always entertained an impression that I should be murdered, if by mischance I happened to shoot one of these birds. It is evidently a superstitious feeling, this particular bird being looked upon as an evil genius."

There is one strange custom which is well authenticated. It exists over the whole island of Borneo, and is practised by tribes however far from or unknown to each other. According to Mr. Dalton,—

"The Dyaks do not circumcise, neither can any inducement urge them to submit to the operation." . . . "Quamquam præputii abscissionem aversantur, mos inter eos usurpatur mirabilis adeo ut vix credi possit. Penis glandem metalli filo decussatim transfigunt. Fere omnes Selgici hoc modo perforati sunt. Ritus non sine vitæ discrimine acerrimum dolorem incutit, totiusque gentis tertiam partem perdit. Filum acuminatum per mediam glandem vi transmissum abscinditur, et iterum transverse inseritur. Quatuor apices deinde ita limantur, ut cutem octavâ pollicis parte superent. Sunt quidam ad hanc artem destinati, quibus adolescentes nondum puberes committantur. Rajahæ filiis utuntur aureis, principes autem, cæterique ditiores, argenteis. Plerique tamen, septem decimæ scilicet, inopiæ causâ, cupreis utuntur. Quinetiam plurimos et ipse vidi, qui non vel cupri tantulum emere valerent. His arundinis Indicæ, *Bamboo* dictæ, spicula sufficiunt. Multi adeo hoc ritu cruciuntur, ut tetano pereant. Quibus hoc malum non accidit nil incommodi postea exoritur, si auro vel argento usi sunt. E reliquis verò multi gangrænâ moriuntur.

Cum Dyakî hujus ritûs honorem non parvi faciant, parum vetat pudor, ne sese nudos ostendant. Triste est spectaculum et visu sane miserabile, istos contemplari, quos ritus hic absurdus emaciavit. Cum cupri filum inserendum est glans ac prius perforatur, et cuprum extemplo insertum carnis inflammationem excitare solet, quâ plures necantur. In Selgico regno virgo nobilis indignum haberet, maritum non hoc modo decoratum accipere."

The rites by which an eternal friendship and alliance are sworn well deserve notice, for they are at once very solemn and very savage. Both Mr. Burns and Mr. Dalton underwent the ceremony, and the latter has given a full account of it, with a naïveté worthy of an English traveller of the days of Elizabeth or James. It is as follows:—

"During my detention in Borneo, altogether nearly fifteen months, I experienced much attention and kindness from many Dyak chiefs, particularly from Selgie, with whom I was some months. Indeed, I was always of opinion that I was unsafe elsewhere. Being the first and only European he had ever seen, we no sooner met, than I informed him through an interpreter (as he could not speak a word of Malay), that I had come on the part of the Europeans to make friends with him; and trusted he and his people would do me no harm. (I mentioned this at once, fearing the Sultan of Coti (a Malay) had given some previous orders by no means favourable towards me.) Selgie replied that he was incapable of such an act, but for our future good understanding, it was proper that all his followers should know on what footing we were, and therefore requested I would make *sobat* (a corruption of the Arabic for friendship) with him; on my gladly consenting he went in person and stuck a spear into the ground above his father's grave. This being the signal for a general assembly, each of the chiefs sent a person to know the Rajah's pleasure; it was that every warrior should assemble around the grave by 12 o'clock the next day. Some thousands were present; a plat-

form of bamboo was raised about 12 feet above the grave, and on this Selgie and I mounted, accompanied by an Aji, his high priest (conjurer or doctor, in Javanese a chief). After some previous ceremony, the Aji produced a small silver cup which might hold about two wine glasses, and then with a piece of bamboo made very sharp, drew blood from the Rajah's right arm; the blood ran into the cup until it was nearly full; he then produced another cup of a similar size, and made an incision in my arm a little above the elbow, and filled it with blood. The two cups were then held up to the view of the surrounding people, who greeted them with loud cheers. The Aji now presented me with the cup of Selgie's blood, giving him the other one with mine; upon a signal, we drank off the contents amidst the deafening noise of the warriors and others. The Aji then half filled one of the cups again from Selgie's arm, and with my blood made it a bumper; this was stirred up with a piece of bamboo and given to Selgie, who drank about half; he then presented the cup to me, when I finished it. The noise was tremendous; thus the great Rajah Selgie and I became brothers. After this ceremony I was perfectly safe, and from that moment felt myself so during my stay amongst his people. Drinking the blood, however, made me ill for two days, as I could not throw it off my stomach. The Rajah took his share with great gusto, as this is considered one of the greatest ceremonies, particularly on this occasion, between the great Rajah and the first European who had been seen in his country. Great festivities followed, and abundance of heads were brought in, for nothing can be done without them. Three days and nights all ranks of people danced round these heads after being, as usual, smoked and the brains taken out, drinking a kind of toddy (tari, palm-wine), which soon intoxicates them; they are then taken care of by the women, who do not drink; at least, I never observed them."

Despotism seems well established even among the rude Dyaks, and Mr. Dalton gives a striking and curious exemplification of it. According to him,—

"The warrior can take any inferior man's wife at pleasure, and is thanked for so doing. A chief who has twenty heads in his possession, will do the same with another who may have only ten, and upwards to the Rajah's family, who can take any woman at pleasure. The more heads a man has the braver he is considered, and as the children belong to the husband, he is happy in his future prospects. On the contrary, a man of inferior note to think of the wife of a superior is entirely out of the question."

The rudeness and simplicity of the aborigines is in no case better characterised than in their superstitious dread of fire-arms. The civilised inhabitants of the Archipelago were familiar with their use when first seen by Europeans, but a period of not less than four centuries has not familiarised the Dyaks of Borneo with the effects of gunpowder, nor allayed their apprehension for it, which is greater at this moment than was that of the Mexicans and Peruvians for the arquebuses of the Spaniards under Cortez and Pizarro. Sir James Brooke, Mr. Burns, and Mr. Dalton, all bear testimony to this fact, and I transcribe the very graphic account given by the last of these authorities,—

"What these people mostly dread is the musket; it is inconceivable what a sensation of fear comes over the bravest of the Dyaks, when they have an idea that a few muskets may possibly be brought against them; no inducement will prevail on them, however numerous, to go forward; hence the Bugis (colonists from

Celebes) with a handful of men, act towards them as they think proper, making them deliver over, not only the produce of the country for a trifling exchange, but a certain number of their children yearly, whom they sell as slaves. Selgie can bring at least 12,000 fighting men, and yet the Bugis with 50 muskets and a few boat-swivels will not hesitate to meet them; the fact is, they no sooner hear the report of a gun, than they run deep into the jungle; if they are in boats they leap into the water, and after gaining the shore, never stop until they are out of hearing of the report. The most sensible of the Dyaks have a superstitious idea of fire-arms; each man, on hearing the report, fancies the ball is making directly towards himself, he therefore runs, never thinking himself safe as long as he hears the explosion of gunpowder: thus, a man hearing the report of a swivel five miles off, will still continue at full speed, with the same trepidation as at first. They have not the least conception of the range of gun-barrels. I have been frequently out with Selgie and other chiefs, shooting monkeys, birds, &c., and offended them in refusing to fire at large birds at the distance of a mile or more; they invariably put such refusal down to ill-nature on my part. Again, firing at an object, they cannot credit it is missed, although they see the bird fly away, but consider that the shot is yet pursuing and it must fall at last. The Bugis take great care to confirm them in their dread of fire-arms."

After this account of the aborigines of Borneo, we are not surprised to find one of the travellers, Mr. Dalton, declare that,—

"The Dyaks are a very peculiar race of men, totally distinct in manner and appearance from all other inhabitants of the earth;" that, "there are no people either like them or who can be said to bear them the slightest resemblance;" and that "their habits and dispositions are equally unlike those of all other nations."

All this is, indeed, true so far as concerns their manners and customs, but however these may disguise the mind and person, the race is still substantially the Malayan.

The Malays, correctly *Malayu*, are invaders and strangers in Borneo, as much as the Anglo-Saxons in Britain. Their native country, or the country to which all Malays trace their origin, is Sumatra, where they still constitute the most powerful, numerous, and civilised people. Little or nothing is known respecting the time when they settled in Borneo. In 1824, some merchants of Borneo Proper informed me that the then generation was the 29th in descent from the first settlers, the Malay "pilgrim fathers," who were not, on their arrival, converted to the Mahomedan religion. Reckoning 30 years to a generation, this would carry the date of the first Malayan settlement to the end of the 10th century of our time. I have never heard even a conjecture respecting the time in which the Malay settlements were found in other parts of the island. The whole coast, however, from Brunai, or Borneo Proper, to Kutu, usually written in our maps Coti, is occupied by Malay settlements, and, in all, *nine* principalities may be named, which, beginning from the north-western extremity of the island, and following the coast in a southerly direction, are as follow:—Brunai, Sambas, Pontianak, Matan, Mampawa, Sukadana, Banjarmasin, Pusir, and Kutu. The extreme northern

and south-eastern coasts have been considered subject to the Sulu islands, the inhabitants of which are a distinct people from the Malays, and belong to nations inhabiting the Philippine Archipelago.

Every Malayan settlement is invariably found to be on a river, a location to be expected from a people far less agricultural than maritime and piscatory. The houses of a Malay town or village are built on tall posts in the ooze, or even in the water; and on some of the rivers, as those of Borneo and Kuti, many of the best are built on floating and moveable rafts, moored to the bank, as occurs also in the Siamese capital.

All who pass at present for Malays, are evidently not of the pure stock of the original settlers, for many Dyaks converted to the Mahomedan religion and adopting the Malay language undoubtedly pass under this name. Several tribes of the aborigines are, indeed, known to have been so converted and absorbed. To such conversion the grand obstacle is well known to be the passion of the Dyaks for pork, and their unwillingness to relinquish the flesh of swine for the remote prospect of a paradise with hours in it.

A certain number of Malay words will be found in every one of the many languages of the aborigines, the proportion being always great or small in the ratio of the facility or difficulty of communication; still it cannot be said, considering the many centuries they have been settled in Borneo, that the Malays have made much progress, either in conquest or conversion. They occupy, generally, the whole coast of the island, and hold the neighbouring tribes of the aborigines in a state of helotism, leaving the whole of the interior in possession of the latter, without the power of trenching on their independence.

The Hindoo religion seems, at one time, to have made some progress in Borneo, and Mr. Dalton's statement on this subject being by far the fullest I have seen, I transcribe it:—

“That the Dyaks,” says he, “are the aborigines of the country, I believe no one has hitherto doubted. Taking this for granted for a moment, for the sake of argument, how happens it that in the very inmost recesses of the mountains, as well as all over the face of the country, the remains of temples and pagodas are to be seen, similar to those found on the continent of India, bearing all the traits of Hindoo mythology? In the country of Waghoo, at least 400 miles from the coast, I have seen several of very superior workmanship, with all the emblematical figures so common in Hindoo places of worship. I cannot be mistaken, having travelled in Bengal as well as on the Coromandel coast, likewise over most parts of Java, where such remains are common; besides, I have with me fac similes of several temples discovered on the latter island and brought into notice by Sir T. S. Raffles, with prints of many of the pagodas in India. The resemblance is exact, as are the images or statues, which are found in precisely the same positions as they are to be seen in continental India, Java, and some other islands of this Archipelago. I have seen some hundred stone images of such description, and many of brass; the

latter, however, are not so common, as I have reason to believe the Dyaks melt those of that metal to fabricate fish-hooks, rings, and other articles of decoration. In most of the pagodas and temples, both within and without, are to be seen, in tolerably good preservation, hieroglyphical characters used by the Hindoos. Many of these, as well as the images, are much broken and defaced by the Ajis, or Mahomedan priests and their followers, the Arabs, who, like many sects of Christians, will tolerate no absurdities but their own."

It is to be regretted on this subject, that Mr. Dalton was not somewhat better acquainted with the details of Hindooism, and did not give us, at least, the names of a few of the many images he describes himself as having seen, with some account of the size and form of the temples. That the Hindoo religion, however, had made some progress on the western, southern, and eastern coasts of Borneo is unquestionable. On that coast is to be found some few names of places which have a Sanskrit origin. Sukadana, the name of a Malay state already mentioned, is pure Sanskrit, meaning "parrot's gift," as my friend Professor Horace Wilson informs me; and 500 and 600 miles in the interior, on the eastern side of the island, I find in the country of the Kayan names of places, in which native words are combined with Sanskrit ones, such as with kuta, a fortress; pura, a city; and karta, workmanship.* The probability is, that a better acquaintance with the country would discover others.

My opinion is, that if such remains of Hindooism exist, they were not derived directly from the country of the Hindoos, but received immediately through the Javanese. Some of the places on the coast of Borneo have Javanese names, as Banjarmasin, which means "the salt or saline garden;" and in the languages of the aborigines a few words are to be found which are Javanese without being Malay, besides a few Sanskrit ones which probably came through the same channel.

The Chinese have been settled for several generations, chiefly on the western coast of Borneo, where they exercise a sovereignty nearly independent under a kind of commercial and republican constitution. They are chiefly emigrants from the province of Canton, and are all of the working class of society. Like their countrymen who migrate to foreign countries, the emigrants are all adult males, unaccompanied by women or children. They intermarry with the women of the Dyaks, or form matrimonial connexions with the descendants of the old settlers by native women, so that many of the colonists are at present of mixed blood. The total number of the Chinese on the western coast, including women and children, has been reckoned at 125,000, of which an unusually large proportion are able-bodied males. Their chief employment is gold digging, but a considerable number

* The name of the principality, which we write Coti, and which is more correctly written Kuti, is Sanskrit, and means in that language a little fortress.

also is engaged in agriculture. The number of immigrants which arrived yearly from China was usually 3000, but in consequence of the disturbed state of the country of late years, that number is said to have fallen off to one-third part. In fact, the Chinese of Borneo have been, with few intervals, engaged in warfare with the Dutch, in resistance to the attempts of the latter to impose taxes on them and to reduce them to a state of vassalage. Such taxes were unknown to them under the Malayan princes. The imposts complained of are a yearly capitation tax of 2 guilders a-head, a tax of equal amount for leave to settle in the country, and one of 30 guilders for leave to quit it. Since they derive no benefit whatever from the Dutch rule, but, on the contrary, much commercial obstruction, the Chinese impatience of taxation is just and natural. The great probability is, that the Chinese, if not interfered with by European powers, would in time become a powerful people, the natives giving way before them as the red men of America have given way before Europeans. Their progress, however, would be attended rather by amalgamation than by extermination, such as has happened in America in the case of the Indians, since the laws and customs of China permit only of male migration.

The Bugis are found as settlers in large numbers only on the rivers of Pasir and Kuti, lying on the strait which separates their own country from Borneo. The whole trade of these rivers is in their hands, and by their numbers, superior courage, intelligence, industry, wealth, and union, they are enabled to dictate their own terms to the Malayan princes. Throughout Borneo, there are probably about 20,000 of this nation, of all the Asiatic dwellers of the Archipelago, the best merchants next to the Chinese.

Respecting the population of Borneo, little better than conjecture can be offered. It is self-evident that the inhabitants of a country of which the major part consists of many savage hordes in a state of perpetual warfare with each other, must be considerable. To expect a numerous population under such circumstances would be like expecting an abundance of game in a country where there was little food or cover for it. This is the picture which Mr. Dalton draws of the aboriginal tribes forming the bulk of the population:—

“Their tribes,” says he, “are innumerable. Borneo is in every part intersected with rivers of greater or less magnitude; every river has a distinct people who will associate with no other, but wage continual war with all. The entrances of the rivers are the scenes of unceasing warfare, as they always lay in ambush about those parts, in hopes of surprising individuals who may be found fishing or straying too far from their campongs, where they may be cut off without notice or alarm. Every river has a rajah, and a large one several. In particular parts, many of these chiefs are united under one great rajah, the better to consolidate their strength and ensure protection by mutual support.”

The author of a judicious memoir on the Dutch possessions on the western side of the island, which first appeared in a *Singapore Journal* in 1827, and was afterwards republished in Moore's 'Indian Archipelago,' in 1837, estimates their population as follows:—

Dyaks	.	.	.	.	.	.	200,000
Chinese	.	.	.	.	.	.	125,000
Malays	.	.	.	.	.	.	60,000
Bugis	.	.	.	.	.	.	5,000
Arabs and their descendants	.	.	.	.	.	.	600

This makes the whole number 390,600, but in round numbers he makes it 400,000; while he estimates the possessions in question to amount to a third part of the area of the whole island. If, then, the rest of it were equally peopled, the total population would be no more than 1,200,000. Such, however, is not the case. The western side of the island is the most populous and commercial portion of it, and, above all, contains the bulk of the Chinese settlers. Mr. Dalton estimates the area of a territory called Bagotta, on the eastern side of the island, at 1200 square miles. The intendant of the port told him that the population "might amount to 10,000," but others, whose information he considered "much better," estimated it at no more than 4000; at which rate, and calling the area of Borneo 300,000 square miles, the whole population of the island would be no more than a million.

Mr. Burns, from the information of the chiefs of the tribe, gives the population of the Kayans of the north-western coast at no more than 17,000; and after travelling over 150 miles of their territory, and judging by the amount and quality of the cultivation, he comes to the conclusion that it is very thinly inhabited, adding, that if the rest of the island be not better peopled, which he thinks it is not likely to be, the accounts given of the population of Borneo have been mightily exaggerated. Mr. Dalton and Mr. Burns seem to make the entire population of the most numerous and advanced of the aboriginal tribes, the conquering Kayans, whose extensive territories run across the island, from the China to the Java sea, only 287,000.

Judging by the scanty data before us, I do not think it would be safe to estimate the whole population of the great island of Borneo at above "one million." Let us compare this with the populousness of countries more favourably circumstanced in the same part of the world, and inhabited by the same race of men in a higher state of civilization, and occupying a more fertile territory. With an area of 40,000 square miles, Java contains 10,000,000 of inhabitants, as ascertained by an actual census. Borneo, equally well peopled, ought to contain 75,000,000.

The little volcanic island of Bali, with a mountain ridge running through it, and a peak 12,000 feet high, pouring down perennial streams of water for irrigation, and having an advanced and industrious population, although its area be no more than 2450 square miles, has a population computed at 900,000. In this proportion, Borneo ought to have had 11,000,000. The island of Luçon, the largest of the Philippine group, has an area of about 57,000 square miles, and a population of 3,500,000. Peopled like it, Borneo ought to have a population of between 18,000,000 and 19,000,000. Facts like these show, far better than any general description, and, above all, than any general assertion, the inferior capabilities of Borneo for the development of civilisation. All the other islands named have invented arts and letters, and have a population considerably civilized and humanized. Borneo has made small progress in the arts, and invented no letters, while its native inhabitants are savages, practising head-hunting and other barbarous rites, and now and then indulging in a human sacrifice. Since the race is one and the same in it and the other islands, it seems difficult to account for the backwardness of man in this great country, except by attributing it to the inferiority of its physical geography. The Malayan race, although settled in Borneo for many centuries, has itself made little advancement; and the climate is but too palpably unsuited to Europeans, who, although connected with it for several ages, have, instead of working any good for it, done it infinite mischief by sheer worthless meddling. But it is the reverse with the Chinese, who are not only suited by constitution to live in the climate of the Equator, but by intelligence and industry to thrive in it. Had they, in fact, been from their first settlement as unobstructed in their colonization there as the Anglo-Saxon race in North America, I cannot doubt but that a great Chinese empire would by this time have been in existence in Borneo, and Europe and America reaping great advantages from a commercial intercourse with it.

It is proper that in concluding this essay, I should state to the Society that it is a mere compilation, and not derived from personal information of the island itself, for all that I have seen of it is confined to my having landed on it for a few hours when I accompanied the expedition which, in 1811, effected the conquest of Java.
